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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,145

10/27/2003

Barbara Horn

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EXAMINER

VO, ANH T N

ART UNIT

PAPER NUMBER

2861

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/694,145	Applicant(s) HORN ET AL.	
	Examiner Anh T.N. Vo	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- * Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6 and 34-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 34-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

NON-FINAL REJECTION.

The rejection over Maggs is withdrawn in view of the argument presented in the Appeal Brief filed 12/11/06.

Claim Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 6 is rejected under 35 USC 102 (a) as being unpatentable over Boyle et al (Pub No. US 2002/0170891, S/N=10/102,703).

As the best construed, Boyle et al disclose in Figures A-B and 1-2 a device comprising:

- a substrate (Si) having a feature (slot), the feature extending into the substrate (Si) and within the substrate along an axis, where a cross-section of the feature taken transverse the axis has an upper terminus (top) proximate a first substrate surface, the upper terminus having a first profile (Figure A); and
- where the upper terminus (top) is formed to have a second profile different from the first profile and where the feature comprises a fluid-handling slot (Figure B).

Noted that the limitations of the steps “a first process that removes substrate material from the substrate and a second different process that removes additional substrate material from the substrate and also removes debris created by the first substrate removal process” are not given patentable weight since the claim is a product by process claim that is a product claim, the product-by-process claim is not limited to the manipulations of the recited steps, only the structure implied by the steps that are not evident and that the product itself does not depend on the process of making it, see **MPEP 2113 Produc-by- Process claims. *In re Marosi*, 218 USPQ 289, 292 (Fed.Cir.1983).**

Claims 6 and 34-38 are rejected under 35 USC 102 (b) as being anticipated by Baughman et al. (US Pat. 5,608,436).

Baughman et al. disclose in Figures 4A-6D an ink jet print head comprising:

- a substrate (12) having a feature, the feature extending into the substrate (12) and within the substrate along an axis, where a cross-section of the feature taken transverse the axis has an upper terminus proximate a first substrate surface (12a), the upper terminus having a first profile (Figures 4A-4B);
- where the upper terminus is formed to have a second profile different from the first profile and where the feature comprises a fluid-handling slot (18). (Figures 4C-4D);
- a substrate (12) comprising at least a first substrate surface (12a) and a second substrate surface (12b) (Figure 4C);
- a fluid-handling slot (18) formed and extended through the substrate (12) between the first substrate surface (12a) and the second substrate surface (12b) (Figure 4D);
- an orifice layer (22) positioned over the first substrate surface (12a), the orifice layer (22) having multiple firing nozzles (20) formed therein, at least some of the nozzles (22) being in fluid flowing relation with the fluid-handling slot (18) (Figure 4D); and
- a print cartridge (not shown) comprising, at least in part, the fluid-ejecting device a substrate (12) for supporting overlying layers (22, 17, 26) (Figure 4D).

Noted that the limitations of the steps “a first process that removes substrate material from the substrate; a second different process that removes additional substrate material from the substrate and also removes debris created by the first substrate removal process; where the first substrate removal process comprises using a laser and the second substrate removal process comprises using abrasive particles; wherein at least one of the first substrate surface and the second substrate surface being processed by at least one of the removal processes prior to the orifice layer being positioned over the first substrate surface, at least in part, to reduce an incidence of debris occluding ink flow through individual nozzles; wherein the fluid-handling slot is formed utilizing three distinct substrate removal processes; and wherein the fluid-handling slot is formed utilizing at least one substrate removal process directed at the first substrate surface and at least two different substrate removal processes directed at the second substrate surface” are not given patentable weight since the claims are product by process claims that are product claims, the product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps that are not evident and that the product itself does not depend on the process of making it, see **MPEP 2113 Produc-by- Process claims. *In re Marosi*, 218 USPQ 289, 292 (Fed.Cir.1983).**

Claims 6 and 34-38 are rejected under 35 USC 102 (e) as being anticipated by Hall et al. (US Pat. 6,902,867).

Hall et al discloses in Figures 2-28 an ink jet printhead comprising:

- a substrate (32 or 150) having a feature (14 or 170) , the feature extending into the substrate
- (32 or 150) and within the substrate along an axis, where a cross-section of the feature taken transverse the axis has an upper terminus proximate a first substrate surface, the upper terminus having a first profile (Figures 2 and 27);
- where the upper terminus is formed to have a second profile different from the first profile and where the feature comprises a fluid-handling slot (14 or 170) (Figures 2 and 28);
- a substrate (32) comprising at least a first substrate surface (top) and a second substrate surface (bottom) (Figure 2);

- a fluid-handling slot (14) formed and extended through the substrate (32) between the first substrate surface (top) and the second substrate surface (bottom) (Figure 2, (column 7);
- an orifice layer (36) positioned over the first substrate surface (top), the orifice layer (36) having multiple firing nozzles (40) formed therein, at least some of the nozzles (40) being in fluid flowing relation with the fluid-handling slot (14) (Figure 2); and
- a print cartridge (28) comprising, at least in part, the fluid-ejecting device (26) (Figure 2); and a substrate (32) for supporting overlying layers (34, 36) (Figure 2).

Noted that the limitations of the steps “a first process that removes substrate material from the substrate; a second different process that removes additional substrate material from the substrate and also removes debris created by the first substrate removal process; where the first substrate removal process comprises using a laser and the second substrate removal process comprises using abrasive particles; wherein at least one of the first substrate surface and the second substrate surface being processed by at least one of the removal processes prior to the orifice layer being positioned over the first substrate surface, at least in part, to reduce an incidence of debris occluding ink flow through individual nozzles; wherein the fluid-handling slot is formed utilizing three distinct substrate removal processes; and wherein the fluid-handling slot is formed utilizing at least one substrate removal process directed at the first substrate surface and at least two different substrate removal processes directed at the second substrate surface” are not given patentable weight since the claims are product by process claims that are product claims, the product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps that are not evident and that the product itself does not depend on the process of making it, see **MPEP 2113 Produc-by- Process claims. *In re Marosi*, 218 USPQ 289, 292 (Fed.Cir.1983).**

Response to Applicant's Arguments

The applicant's arguments over Maggs in the Appeal Brief is persuasive without traverse.

The applicant argues that Boyle does not teach a second different process that removes additional substrate material. The argument is not persuasive because this step is not given a

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patentable weight since the Product-by Process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps that are not evident, **see MPEP 2113**

Product-by Process Claims. *In re Marosi*, 218 USPQ 289, 292 (Fed.Cir.1983).

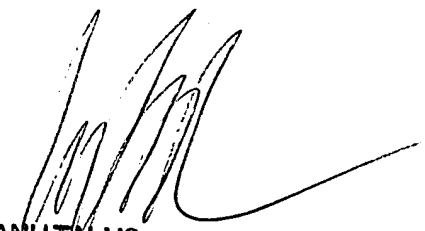
The applicant argues Hall does not teach a first substrate removal process or a substrate surface processed to reduce an incidence of debris. The argument is not persuasive because this step is not given a patentable weight since the Product-by Process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps that are not evident, **see MPEP 2113 Product-by Process Claims.** *In re Marosi*, 218 USPTQ 289, 292 (Fed.Cir.1983).

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262.

The examiner can normally be reached on Monday to Friday from 9:00 A.M.to 5:30 P.M..

The fax number of this Group 2861 is (571) 273-8300.


ANH T. N. VO
PRIMARY EXAMINER
March 21, 2007